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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,412	08/18/2003	Gerhard Hugenschutt	364/112	3440

7590 07/16/2004

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New York, NY 10004

EXAMINER	
LIN, ING HOUR	

ART UNIT	PAPER NUMBER
1725	

DATE MAILED: 07/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/643,412	HUGENSCHUTT ET AL.	
	Examiner	Art Unit	
	Ing-Hour Lin	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0712*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-10, 12-14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al in view of Blacklin et al.

Yamasaki et al (col. 3, lines 42+) teach the claimed liquid-cooled mold for the continuous casting of metal, comprising mold members having copper facing plates 11 and supporting plates 17, wherein bolts 13a –15a are used to connect and tighten the supporting plates to the copper facing plates having cylindrical plateau pedestals

(tightening members) 13-15 with holes for fitting the bolts. The pedestal jut into a cooling arrangement gap formed between the copper facing plate and the supporting plate, wherein the surfaces of the plateau pedestals (tightening members) lying up against the supporting plate in planes or interfaces parallel to one another. The dimension of the copper facing plate includes thickness of 10-30mm, lateral width of 0.1 –3m and length in the casting direction of 0.7-1.5 m. Yamasaki et al fail to teach the use of streamline shape or rhombus shape for the plateau pedestals (tightening members).

However, Blacklin et al (col. 8, lines 55+ and Figs. 2-13) teach the use of streamline shape or rhombus shape or configuration for the plateau (truncated cone) pedestals in composite panel for the purpose of effectively supporting a plate in the composite panel. It would have been obvious to one having ordinary skill in the art to provide Yamasaki et al rhombus shape for the plateau pedestals as taught by Blacklin et al in order to effectively better support the interfaces between the copper facing plate and the supporting plate.

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al in view of Blacklin et al and further in view of Church et al.

Yamasaki et al in view of Blacklin et al fail teach the use of aged cooper. However, Church et al (col. 3, lines 63+) teach the use of casting mold made of aged copper having yield strength of 615 Mpa for the purpose of promoting the high temperature creep resistance of molding plate. It would have been obvious to one having ordinary skill in the art to provide Yamasaki et al in view of Blacklin et al an aged

copper plate as taught by Church et al in order to promote the high temperature creep resistance of molding plate.

5. Claims 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al in view of Blacklin et al and further in vie of Grove.

Yamasaki et al in view of Blacklin et al fail to teach the use of a sliding aid.

However, Grove (col. 4, lines 23+) teaches the use of a sliding aid, comprising a disc-shaped spring washer 56 and gaskets of steel or foam 58 used under clamping bolt (nut) 60 for fastening mounting studs 50 for the purpose of allowing three dimensional displacements of the copper facing plates 28 and steel supporting plates 32 and for minimizing the thermal stress exerted on the copper facing plates 28 by the steel supporting plates 32. It would have been obvious to one having ordinary skill in the art to provide Yamasaki et al in view of Blacklin et al a sliding aid as taught by Grove in order to improve the relative movement between the copper facing plates and steel supporting plates.

6. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al in view of Blacklin et al and further in vie of Bower.

Yamasaki et al in view of Blacklin et al fail to teach the use of friction-reducing material.

However, Bower (col. 2, lines 8+) teach the use of friction-reducing material including polytetrafluoroethylene (Teflon), graphite and molybdenum desulfide for the purpose of effectively reducing the coefficient of friction opposing relative movement

between copper facing plates 10 and steel supporting plates 12 to a maximum value of about 0.1. It would have been obvious to one having ordinary skill in the art to provide Yamasaki et al in view of Blacklin et al the friction-reducing material as taught by Bower in order to improve the relative movement between the copper facing plates and steel supporting plates.

7. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al in view of Blacklin et al and further in vie of Ushio et al and Ishida.

Yamasaki et al in view of Blacklin et al fails to teach the use of coating on the copper plate. However, Ushio et al (col. 1, lines 49+) teach the need of diffusion barrier and the use of Ni coating having the properties of wear resistance; and the thickness of coating layer increases with the casting direction for purpose of effectively protecting the copper plate from the attack of cast steel. Further, Ishida (col. 2, lines 65+) teaches the use of tungsten alloy of thick ness between 0.1 and 2 mm containing WC and Ni alloy as a coating for the purpose of enhancing corrosion resistance (diffusion barrier) and wear resistance. It would have been obvious to one having ordinary skill in the art to provide Grove in view of Bower et al the use of coating alloys as taught respectively by of Ushio et al and Ishida in order to protect the copper plate during casting steel.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ing-Hour Lin whose telephone number is (571) 272-1180. The examiner can normally be reached on M-F (8:00-5:30) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

I.-H.Lin

7-12-04

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7/14/04